REMARKS

This paper is being filed in reply to the action mailed January 10, 2005. Applicant asks that all claims be allowed in view of the following remarks.

Claims 1-72 are pending in this application. Claims 1, 3, 46, 62, 64, 66, 69, and 72 have been amended. Reconsideration of the rejected claims is respectfully requested in view of the following remarks.

1. Interview Summary

Applicant thanks Examiner for the interview on April 7, 2005. Amendments proposed by the Examiner (copy attached), were discussed during the interview, and agreement was reached as to Applicant's proposed amendments. Specifically, the Examiner agreed that Applicant's proposed change to the Examiner's proposed amendment to reflect the fact that the control region is not required to be within a boundary of the reference region, and instead, the control region and reference region merely being in proximity was allowable over the prior art of record.

Claims 1, 3, 46, 62, 64, 66, 69, and 72 have been amended accordingly. The amended claims are believed to be in condition for allowance.

2. Response to Rejections under Section 103

a. Claims 1, 3-6, 11-16, 52, 56-60, 62-64, 66, and 72

Claims 1, 3-6, 11-16, 52, 56-60, 62-64, 66 and 72 stand rejected under 35 U.S.C. Section 102(b) as being anticipated by U.S. Patent No. 5,563,725 to Kumada et al. ("Kumada") and further in view of U.S. Patent No. 5,638,117 to Engeldrum et al. ("Engeldrum"). Applicant respectfully traverses the rejection.

i. Claims 1, 11, 52 and 56-60

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Claim 1 recites a method for use in a display system operable to display each of a plurality of pixels at a visual output intensity relative to an output display device according to a corresponding pixel input value. The method comprises determining a set of device specific pixel input values, based on user input, that will cause the display system to display a corresponding set of target visual output intensities relative to the output display device, where the output display device has one or more color planes. The determining step includes displaying a control region and a reference region on the output display device such that the control region is in proximity to the reference region. The reference region is defined by a plurality of reference pixels, input values of the reference pixels being selected so that an average visual output intensity of the reference pixels is a target visual output intensity. The control region and reference region are evaluated for each color plane of the display device, and a common pixel input value for the control pixels defining the control region is adjusted until a match is achieved between an appearance of the reference region and an appearance of the control region for each color plane such that the target visual output intensities are achieved.

The Examiner agrees that Kumada neither discloses nor suggests displaying a control region and a reference region on the output display device, and adjusting common pixel input values for control pixels defining the control region until a match is achieved between an appearance of the reference region and appearance of the control region for each color plane such that the target visual output intensities are achieved. However, the Examiner asserts that Engeldrum discloses these limitations of claim 1. Applicant respectfully disagrees. Engeldrum neither discloses nor suggests displaying a control region and a reference region on the output display device, and adjusting common pixel input values for the control pixels defining the control region until a match is achieved between the reference region and the control region. Engledrum discloses displaying a striped box and a number of continuous tone boxes on a display screen, where each of the continuous tone boxes displays a different intensity of the same color and the striped box displays the full intensity of the same color overlaid by a number of closely-spaced black lines (column 3, lines 1-13).

Engeldrum does not teach adjusting the common pixel input value for a control region, i.e., the continuous tone box(es). Engeldrum's continuous tone boxes each display a predetermined intensity of the color (column 3, lines 6-8). No adjustment is made to a common pixel input value for any of the continuous tone boxes. Each is fixed, and no adjustment to the intensity setting for a given continuous tone box is taught or suggested. Further, there would be no motivation to adjust the intensity setting for any of Engeldrum's continuous tone boxes. Engeldrum provides a plurality of boxes, sufficient to provide a user with choices to meet the threshold for closeness specified. While Applicant can see the benefit of allowing an initial selection of one of Engeldrum's continuous tone boxes followed by the adjustment of the intensity for the selected box as being advantageous, such a combination is not taught or suggested by Engeldrum. Rather, such a combination only results from the combination of the teaching of the instant application and Engeldrum.

Further, Engeldrum does not teach a method for achieving a match between a reference region and a control region. Engeldrum only displays a finite number of continuous tone boxes each of which are set to a fixed intensity. In Engeldrum, the user selects the continuous tone box that is closest to the striped box. Conversely, Applicant's claimed method requires only the display of a single region whose common pixel input value is adjusted until a visual match is determined. Engeldrum does not produce a match, rather a closeness comparison. In order to produce a match, Engeldrum would have to be modified to include a tremendous, and impractical, number of continuous tone boxes, or be modified to include the teachings provided in the instant application as described above. Fundamentally, Engeldrum teaches away from Applicant's claimed adjustment and matching process.

Applicant also notes that neither Kumada nor Engeldrum, alone or in combination, disclose or suggest a reference region defined by a plurality of reference pixels, where input values of the reference pixels are selected so that an average visual output intensity of the reference pixels is a target visual output intensity.

The Applicant respectfully submits that neither Kumada nor Engeldrum disclose or suggest, individually or in combination, displaying a control region and a reference region, and

adjusting a common pixel input value for control pixels defining the control region until a match is achieved between an appearance of the reference region and an appearance of the control region for each color plane, such that target visual output intensities are achieved. Claim 1 is therefore allowable. Claims 11, 52 and 56-60 depend either directly or indirectly from Claim 1, and are therefore allowable for at least the same reasons.

ii. Claims 3-6 and 12-16

Claim 3 recites a method for use in a display system operable to display each of a plurality of pixels at a visual output intensity relative to an output display device according to a corresponding pixel input value. The method comprises obtaining a target visual intensity, establishing a reference region defined by a plurality of reference pixels in a display device, selecting a pixel input value for each of the reference pixels so that the average visual output intensities of the reference pixels is the target visual output intensity, and displaying the reference region with the selected pixel input values for the reference pixels. The method further includes, displaying a control region on the display device, where the control region is defined by a plurality of control pixels having a common pixel input value, adjusting the common pixel input value in response to user input, and associating the common pixel input value with the target visual output intensity when a user indicates a match between the reference region and the control region. The control region is in proximity to the reference region.

Applicant submits that claim 3 is allowable for at least the same reasons as claim 1. In addition, claim 3 is allowable at least because neither Kumada nor Engeldrum disclose obtaining a target visual intensity and displaying a reference region having reference pixels that have the same average visual output intensity as the target visual intensity, and adjusting the common pixel input value of the control pixels defining the control region in response to user input.

Claims 4-6, and 12-16 depend either directly or indirectly from claim 3 and are therefore allowable for at least the same reasons.

Claim 4 is allowable for at least the additional reason that neither Kumada nor Engeldrum disclose a method wherein the target visual intensity is obtained from user input. This is

fundamentally different from the method disclosed in Engeldrum, where the striped box displays the full intensity of the color because the user can define the target visual intensity to be used for calibrating the display and also because the user can define more than one target visual intensities to be used for calibrating the display. See FIG. 1, "No branch of decision step 110" and associated text.

iii. Claims 62 and 63

Claim 62 recites a method for displaying a reference region defined by a plurality of pixels on a display device and displaying a control region defined by a plurality of control pixels on the display device. The input values of the reference pixels are selected so that an average visual output intensity of the reference pixels is the target visual output intensity. The control pixels have a common pixel input value and a pixel input value is selected for each of the reference pixels to produce a target visual intensity. The method further includes adjusting the common pixel input value in response to user input until a visual match is achieved between the reference region and the control region, and associating the common pixel input value with the target visual intensity.

Claim 62 is allowable for at least the same reasons as claim 1. Claim 63 depends from claim 62 and is therefore allowable for at least the same reasons as claim 62.

iv. Claim 64

Claim 64 recites a computer program product, tangibly stored on a computer-readable medium, for determining device-specific information for pixels to obtain an optimal display of images on an output display device having one or more color planes. The product comprises instructions to determine a set of device specific pixel input values, based on user input, that will cause the display system to display a corresponding set of target visual output intensities relative to the output display device, where the output display device has one or more color planes. The instructions to determine include instructions to display a control region and a reference region on the output display device, evaluate the control region and reference region for each color

plane of the display device, and adjust a common pixel input value for the control pixels defining the control region until a match is achieved between an appearance of the reference region and an appearance of the control region for each color plane such that the target visual output intensities are achieved. The input values of the reference pixels are selected so that an average visual output intensity of the reference pixels is the target visual output intensity.

Applicant submits that claim 64 is allowable for at least the same reasons as claim 1.

v. Claim 66

Claim 66 recites a computer program product, tangibly stored on a computer-readable medium, for determining device-specific information for pixels. The product comprises instructions to obtain a target visual intensity, establishing a reference region defined by a plurality of reference pixels in a display device, select a pixel input value for each of the reference pixels so that the average visual output intensities of the reference pixels is the target visual output intensity, and display the reference region with the selected pixel input values for the reference pixels. The product further comprises instructions to display a control region on the display device, where the control region is defined by a plurality of control pixels having a common pixel input value, adjust the common pixel input value in response to user input, and associate the common pixel input value with the target visual input intensity when a user indicates a match between the reference region and the control region. The control region is in proximity to the reference region.

Applicant submits that claim 66 is allowable for at least the same reasons as claim 3.

vi. Claim 72

Claim 72 recites a computer program product tangibly stored on a computer-readable medium. The product comprises instructions to display a reference region defined by a plurality of pixels on a display device, and display a control region defined by a plurality of control pixels on the display device. The control pixels have a common pixel input value and a pixel input

value is selected for each of the reference pixels to produce a target visual intensity. The product further includes instructions to adjust the common pixel input value in response to user input until a visual match is achieved between the reference region and the control region, and associate the common pixel input value with the target visual intensity. The input values of the reference pixels are selected so that an average visual output intensity of the reference pixels is the target visual output intensity.

Applicant submits that claim 72 is allowable for at least the same reasons as claim 1.

b. Claims 46-48, 69 and 71

Claims 46-48, 69 and 71 stand rejected under 35 U.S.C. Section 103(a) as being unpatentable over Kumada and Engeldrum, and further in view of U.S. Patent No. 6,278,434 to Hill et al. (Hill).

i. Claims 46-48

Claim 46 recites a method for use in a display system operable to display each of a plurality of pixels at a visual output intensity relative to a liquid crystal display (LCD) device according to a corresponding pixel input value. The method determines device-specific information for pixels to obtain an optimal display of images on a liquid crystal display (LCD) device, the LCD device having one or more color planes. The method comprises determining a set of device specific pixel input values, based on user input, that will cause the display system to display a corresponding set of target visual output intensities relative to the liquid crystal display (LCD) device. The determining step includes displaying a control region and a reference region on the liquid crystal display (LCD) device, and adjusting a common pixel input value for control pixels defining the control region until a match is achieved between an appearance of the reference region and an appearance of the control region for each color plane, such that target visual output intensities are achieved. The control region is in proximity to the reference region. The input values of the reference pixels are selected so that an average visual output intensity of the reference pixels is the target visual output intensity.

Hill discloses a method of displaying an image at an increased resolution by treating the sub-pixel components independently. Kumada, Engeldrum and Hill, individually or in combination, do not disclose or suggest displaying a control region and a reference on the display device, and adjusting a common pixel input value for the control pixels defining the control region until a match is achieved between an appearance of the reference region and an appearance of the control region, thereby achieving target visual output intensities. Because Kumada, Engeldrum, and Hill, alone or in combination, fail to disclose or suggest at least these limitations of claim 46, no *prima facie* case of obviousness has been established, and claim 46 is allowable. Claims 47 and 48 depend directly or indirectly from claim 46 and are therefore allowable for at least the same reasons.

ii. Claim 69

Claim 69 recites a computer program product, tangibly stored on a computer-readable medium, for determining device-specific information for pixels to obtain an optimal display of images on a liquid crystal display (LCD) device. The product comprises instructions to determine a set of device specific pixel input values, based on user input, that will cause the display system to display a corresponding set of target visual output intensities relative to the LCD device. The instructions to determine include instructions display a control region and a reference region on the LCD device, where the control region is in proximity to the reference region. The input values of the reference pixels are selected so that an average visual output intensity of the reference pixels is the target visual output intensity. The control region and reference region are evaluated for each color plane of the display device, and a common pixel input value for the control pixels is adjusted to define the control region until a match is achieved between an appearance of the reference region and an appearance of the control region for each color plane such that the target visual output intensities are achieved.

Applicant submits that claim 69 is allowable for at least the same reasons as claim 1.

iii. Claim 71

Claim 71 recites a computer program product, tangibly stored on a computer-readable medium, for determining device-specific information for pixels to obtain an optimal display of images on a LCD device. The product includes instructions to display a plurality of regions on the liquid crystal display (LCD) device, the instructions to display including instructions to select a pattern for each region of the plurality of regions. The product includes instructions to determine a device-specific sub-pixel geometry from a plurality of possible sub-pixel geometries for all pixels of the liquid crystal display (LCD) device, based on user input, where each pixel includes a plurality of sub-pixels each defining a color component and a sub-pixel position associated with a given pixel.

Kumada, Engeldrum, and Hill do not disclose displaying a plurality of regions on the liquid crystal display (LCD) device, including selecting a pattern for each region. In addition, Kumada, Engeldrum, and Hill do not disclose or suggest the use of user input in determining a device-specific sub-pixel geometry from a plurality of possible sub-pixel geometries where each pixel includes a plurality of sub-pixels each defining a color component and a sub-pixel position associated with a given pixel. Because Kumada, Engeldrum, and Hill, alone or in combination, fail to disclose or suggest at least these limitations of claim 71, no *prima facie* case of obviousness has been established, and claim 71 is allowable.

c. Claims 10 and 56

Claims 10 and 56 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Kumada and Engeldrum as applied to claim 1, and further in view of Simpson "Mastering Wordperfect 5.1 & 5.2 for Windows (Copyright 1993). Claims 10 and 56 depend from claim 1 and are therefore allowable for at least the same reasons given above with respect to claim 1.

i. Claims 53-55

The Examiner has not provided any reasons for rejecting claims 53-55. However, these claims depend from claim 1 and are therefore allowable for at least the same reasons given above with respect to claim 1.

3. Allowable Subject Matter

Applicant wishes to thank the Examiner for allowing Claims 17-45, and 49-51. In addition, Applicant wishes to thank the Examiner for indicating that Claims 2, 7-9, 65, 67, 68, and 70 were merely objected to as being dependent upon a rejected base claim, and otherwise were in allowable form. Applicant believes that the Examiner's objections are rendered moot in view of the above remarks.

Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

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Subroto Bose
Reg. No. 55,014

Fish & Richardson P.C.
500 Arguello Street, Suite 500
Redwood City, California 94063
Telephone: (650) 839-5070
Facsimile: (650) 839-5071

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